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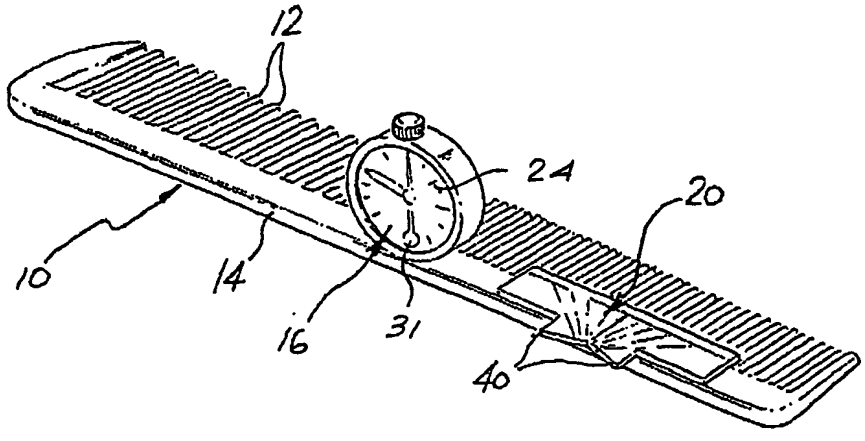
(54) Title: COMB



(57) Abstract: The invention provides a comb (10) which includes means for indicating to a holder of the comb when the comb is being held at a predetermined angle to a known datum plane. In a preferred form of the invention, the comb (10) includes, either fixed to it or integral with it, a scale marked (16) with angular graduations (24), and a pointer (31) which is biased so as to point in a specific direction at all times, alignment of the pointer with chosen graduation on the scale then ensuring that the comb is oriented at a desired angle to the datum plane. The pointer (31) may, for instance be biased gravitationally so as to point vertically irrespective of the inclination of the comb.

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"CYBER 'COMB"

BACKGROUND TO THE INVENTION

THIS invention relates to a comb.

The art of hairdressing is moving onto a more scientific footing than in previous years and it is proposed to formulate and implement a hairstyle using accurate cuts at specified angles to achieve the desired style. Usually, a hairstylist will lift a lock of hair using a comb preparatory to cutting it.

The present invention seeks to provide a comb which will enable accurate cuts to be made in locks of hair.

SUMMARY OF THE INVENTION

According to the invention there is provided a comb which includes means for indicating to a holder of the comb when the comb is being held at a predetermined angle to a known datum plane.

In a preferred form of the invention, the comb includes, either fixed to it or integral with it, a scale marked with angular graduations, and a pointer which is biased so as to point in a specific direction at all times, alignment of the pointer with chosen graduation on the scale then ensuring that the comb is oriented at a desired angle to the datum plane. The pointer may, for instance be biased gravitationally so as to point vertically irrespective of the inclination of the comb.

Furthermore, the comb may include a linear scale and an angular scale adapted to give its holder an indication of the angular orientation of the comb in a horizontal plane relative to a selected datum.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be described, by way of example only, with reference to the accompanying drawings in which:

Figure 1 shows a perspective view of a first embodiment of a comb according to the invention;

Figure 2 shows an underplan view of the comb;

Figures 3a and 3b illustrate the operation of an angle scale which is used to indicate the angle of the comb relative to a vertical plane;

Figure 4 shows a plan view of the comb in use; and

Figure 5 shows a second embodiment of a comb according to the invention.

DESCRIPTION OF THE ILLUSTRATED EMBODIMENTS

In the drawings, the reference numeral 10 refers to a comb which has normal teeth 12 extending normally from a spine 14 of the comb. Fixed to one side of the spine 14 is a means for indicating to a holder when the comb is being held at a predetermined angle to a known datum plane. In this embodiment of the invention the means for indicating is provided by an angle scale 16, the face of which is shown in greater detail in Figure 3.

Fixed along the spine, on the side thereof remote from the angle scale 16, is a linear scale 18 graduated in units of length, for instance in centimetres. Fixed to the spine, on the same side as the angle scale 16, is a further angular scale 20 graduated in the manner seen in Figure 4.

Referring to Figure 3a, it will be seen that the angle scale 16 has a face 22 which is marked with angular graduations 24. There is a radially inner scale with graduations running from 0° to 360° in the clockwise direction (as illustrated) and a radially outer scale with graduations running from 0° to 360° in the anti-clockwise direction (as illustrated). The inner and outer scales are such that 0° on the outer scale is opposite 180° on the inner scale.

The angle scale 16 also includes a first pointer 26 carried by a central shaft 28 which can be rotated by a crown 30 in the manner of the hand of a watch to indicate chosen graduation. Freely pivoted on the shaft 28 is a second pointer 31 which has a point 32 at one end and a weight 34 at the opposite end, on the opposite side of the shaft from the point 32. Clearly, the weight 34 biases the second pointer gravitationally so that this pointer is always vertically aligned, irrespective of the orientation of the comb to the horizontal plane. This vertical alignment of the second pointer forms a known datum plane.

Figure 3a illustrates the situation when the pointer 26 is aligned, using the crown 30, with the 0° graduation on the outer scale. When the comb is moved so that the second pointer 31 is aligned with the first pointer and itself points to the 0° graduation, the comb is vertical.

When forming a hairstyle on a scientific basis, the hair stylist will want to hold the comb at a selected angle to the horizontal or vertical plane in order to lift locks of hair for subsequent cutting at a desired angle to the horizontal plane. This may, for instance, be the case when the hair stylist is cutting locks of hair at the side of the head and wishes, say for the hair nearer to the front of the head to be shorter than hair nearer to the back of the head.

Assume for the purposes of this description that the hair stylist wishes to cut hair on one side of the head at an angle of 40° to the vertical. This is done by rotating the crown 30 to align the first pointer 26 with the 40° on the outer scale. The whole comb is then reorientated so that the second pointer 31 lines up with the first pointer. When this is achieved, the comb will itself be at an angle of 40° to the vertical as illustrated by Figure 3b.

It will be appreciated that the function of the first pointer is merely to facilitate the proper alignment of the second pointer 31, in that the hair stylist will be able to see easily when the two pointers are lined up with one another.

Holding the comb at the orientation illustrated by Figure 3b, the hair stylist now lifts up locks of hair from the side of the head, and cuts the hair along the comb. In the result, the hair will be cut at an angle of 40° to the vertical.

The inner scale is used in exactly the same way for hair on the opposite side of the head.

The linear scale 18 is used by the hair stylist to determine the length of hair which is to remain after cutting. This scale is used by placing the comb normal to the scalp of a person who's hair is being cut, over the scale 18. By reading off the scale 18, the hair stylist is able to determine the length of hair.

The angular scale 20 includes two points 40 which are placed against the side of the scalp as seen in the exaggerated view of Figure 4. The hair stylist can now draw hair outwardly from the scalp over the scale 20. When the hair is drawn out at right angles from the scalp, it will align with the 90° graduation. When it is drawn out at 45° to the scalp, it will align with the 45° graduation and so forth. Thus the angular scale 20 permits the hairstylist to determine angles in the horizontal plane and this is also a useful facility when styling hair on a scientific basis. In a modification of the illustrated apparatus, the annular scale 20 may be replaced with a scale similar to the angle scale 16. In this case, however, the gravitationally biased pointer would be replaced by a pointer which is magnetically biased so as to point to magnetic north at all times. This then forms a datum relative to which angles in the horizontal plane may be set.

Turning now to Figure 5 of the drawings in which a second embodiment of a comb 40 according to the invention is shown having a spine, indicated by the reference numeral 42. The spine includes a recessed portion in which an angle scale 44 is pivotally mounted. As with the first embodiment, the spine has a linear scale 46 thereon which can be used by a hair stylist to determine the length of hair.

The angle scale 44 comprises a face 48 and a transparent panel that is rotatable relative to the face. As with the first embodiment of the invention, the face is marked with angular graduations, indicated by the reference numeral 52. The panel carries a first pointer which is in the form of a linear protrusion 54 on the panel, the first pointer being used to indicate a chosen graduation on the face. A second pointer 56 similar to that of the first embodiment, is freely pivoted on a shaft 58 operates similar to the second pointer described above to provide a known datum plane.

If a hair stylist now whishes to cut hair on one side of a person's head at an angle of 30° to the vertical, the panel is rotated until the protrusion 54 is aligned with the 30° on the outer scale. The comb is then orientated so that an upper portion 60 of the second pointer is lined up with the protrusion 54. When this is achieved the comb will be orientated at angle of 30° to the vertical.

Although a hair stylist will typically only cut hair at angles ranging between 0° and 90° with the vertical, there are four positions for taking a reading for each angle in this band as shown in Figure 5. This provides a hair stylist with a number of options for viewing a particular angle such that different hair stylists using different techniques in holding a comb may easily view readings on the face.

It will finally be appreciated that the 0° graduation on the angle scale 44 need not lie in parallel plane relative to the spine of the comb as shown, but may lie perpendicular thereof. This can be adjusted as preferred by the hair stylist using the comb.

CLAIMS

1. A comb including means for indicating to a holder of the comb when the comb is being held at a predetermined angle to a known datum plane.

2. A comb according to claim 1 wherein the means for indicating includes a scale marked with angular graduations, and a pointer which is biased so as to point in a specific direction at all times, thereby forming the datum plane, alignment of the pointer with a chosen graduation on the scale then ensuring that the comb is oriented at a desired angle to the datum plane.

3. A comb according to claim 2 wherein the scale is fixed to the comb.

4. A comb according to claim 2 wherein the scale is integral with the comb.

5. A comb according to any one of claims 2 to 4 wherein the pointer is biased gravitationally to point vertically irrespective of the inclination of the comb.

6. A comb according to claim 5 including an angular scale adapted to give its holder an indication of the angular orientation of the comb in a horizontal plane relative to the datum plane.

7. A comb according to any one of claims 2 to 4 wherein the pointer is magnetically biased so as to point to magnetic north at all times.

8. A comb according to any one of the preceding claims including a linear scale.

Fig 1

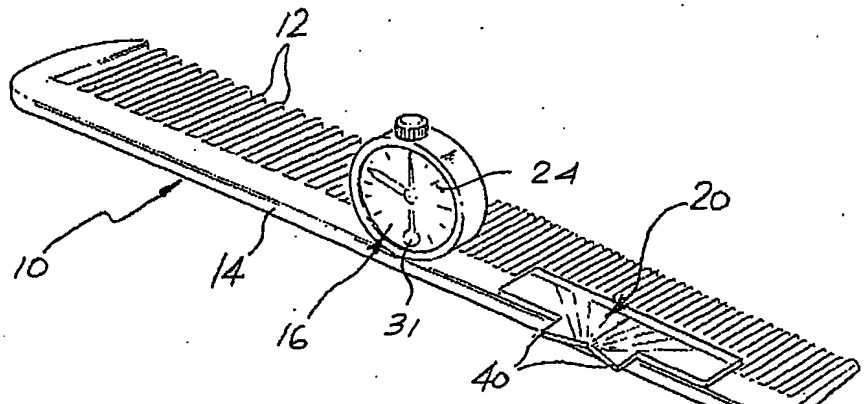
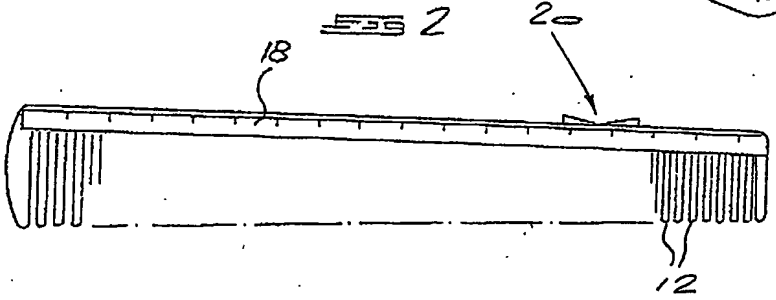


Fig 2



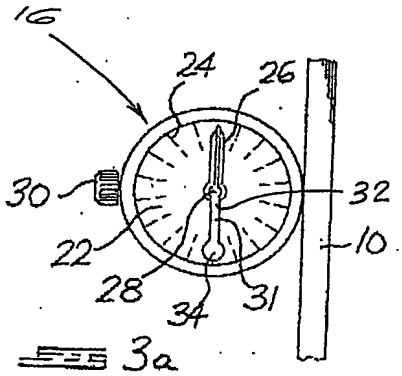


Fig 3a

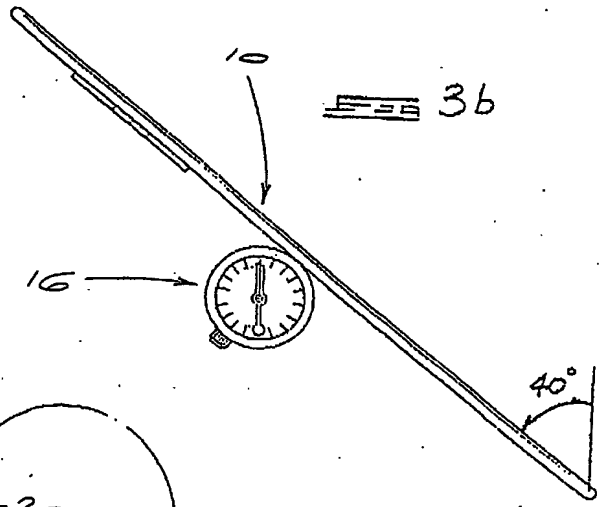


Fig 3b

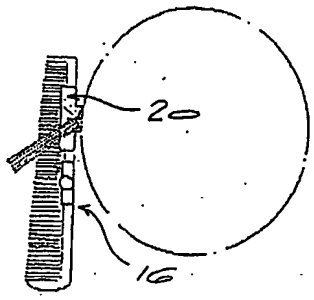


Fig 4

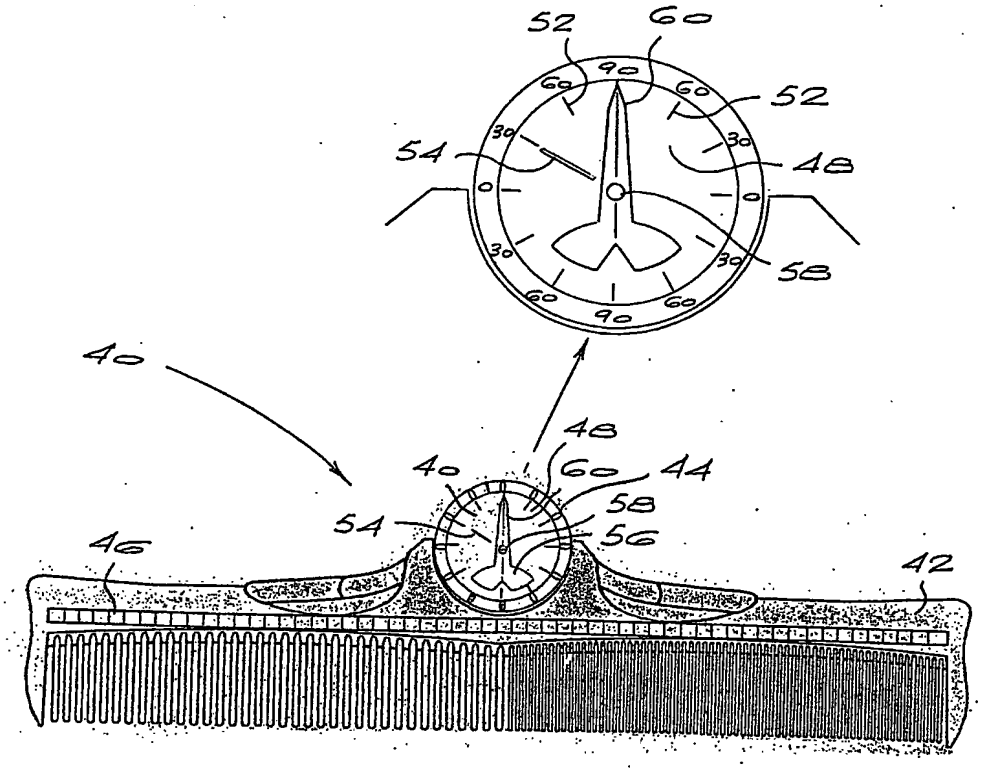

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Fig 5

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EA 02/00202

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A45D24/36

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A45D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 368 745 A (MCGUFFEY PATRICK J) 18 January 1983 (1983-01-18)	1-6
A	the whole document	7,8
X	FR 2 654 209 A (COHEN VICTOR) 10 May 1991 (1991-05-10)	1-4
A	figures 5-7,15	8
A	US 4 383 374 A (BERTERO ANTHONY J) 17 May 1983 (1983-05-17) figures 1-3	5-7
A	FR 2 497 640 A (ASAKURA HIROMI) 16 July 1982 (1982-07-16)	

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance
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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 March 2003	18/03/2003
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Authorized officer Hinrichs, W

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INTERNATIONAL SEARCH REPORT

rmation on patent family members

Interr[illegible]al Application No
PCT/A 02/00202

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